

Development of REvolutionary Adaptive Morphing UAV (DREAM-UAV), Phase I

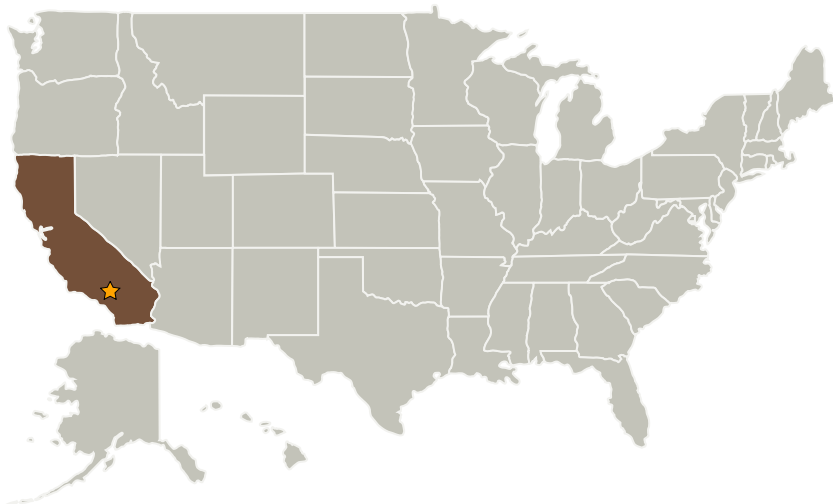
Completed Technology Project (2004 - 2004)



Project Introduction

NextGen Aeronautics, Inc. proposes the development of the innovative use of morphing structures for maneuver and flight control as a project for NASA's Revolutionary Flight Concepts (Topic A7.02). Although aircraft morphing for mission performance enhancement is currently receiving much attention from the research community, there is not a great emphasis on utilizing the same technology for flight control. NextGen, with its extensive experience in smart structures, smart actuation and aircraft morphing has a unique combination of skills and background to develop the proposed concept. NextGen has proposed a morphing fan wing concept as the platform for this project, based upon well-understood flight characteristics and apparent ease of integration. Asymmetric deployment of the fan wing will be utilized to effect roll control of the aircraft. NextGen intends to verify the feasibility of this concept in Phase I, with an eventual flight test planned for Phase II. NextGen will address the critical issues involved with this concept (structures, actuation, skin technology, etc.) in bringing the technology to maturation.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Armstrong Flight Research Center (AFRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Armstrong Flight Research Center(AFRC)	Lead Organization	NASA Center	Edwards, California
NextGen Aeronautics, Inc.	Supporting Organization	Industry Minority-Owned Business, Small Disadvantaged Business (SDB)	Torrance, California

Primary U.S. Work Locations

California

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

David Cowan

Technology Areas

Primary:

- TX15 Flight Vehicle Systems
 - └ TX15.1 Aerosciences
 - └ TX15.1.3 Aeroelasticity